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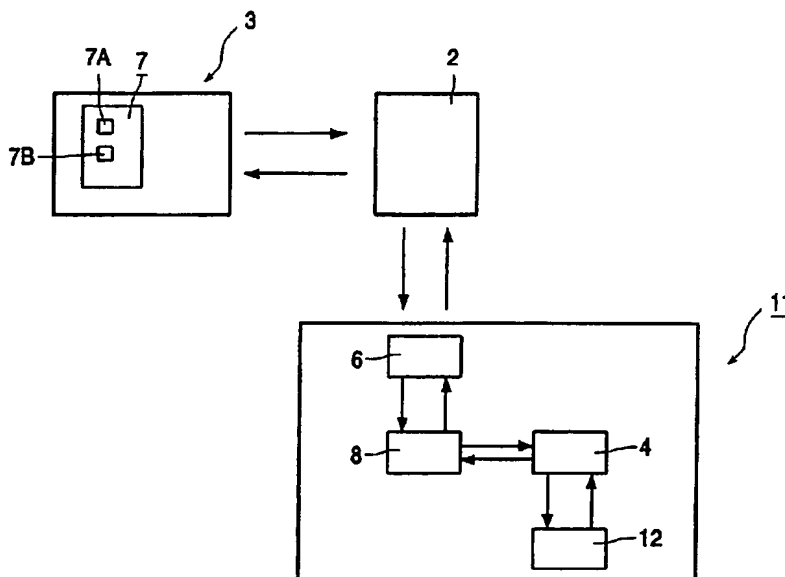
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[Continued on next page]

(54) Title: SEMICONDUCTOR DEVICE, METHOD OF AUTHENTICATING AND SYSTEM



(57) Abstract: The semiconductor device (11) of the invention comprises a circuit and a protecting structure (50). It is provided with a first and a second security element (12A, 12B) and with an input and an output (14, 15). The security elements (12A, 12B) have a first and a second impedance, respectively, which impedances differ. The device is further provided with measuring means, processing means and connection means. The processing means transform any first information received into a specific program of measurement. Herewith a challenge-response mechanism is implemented in the device (11) and a reader in order to check the authenticity or establish the identity of the device (e.g. smartcard).



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 98/18102 A (POSCH REINHARD) 30 April 1998 (1998-04-30) page 1, line 8 - page 3, line 30 page 4, line 1 - page 10, line 31; figures 1-4</p> <p style="text-align: center;">----- -/-</p>	1-10, 13

☒ Further documents are listed in the continuation of box C.

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X	<p>WO 03/007231 A (GRASSL THOMAS ; GIESECKE & DEVRIENT GMBH (DE)) 23 January 2003 (2003-01-23) page 1, lines 1-20 page 5, lines 6-16 page 7, line 14 - page 10, line 7 page 12, line 9 - page 13, line 19 page 14, line 20 - page 19, line 12; figure 1 page 20, line 28 - page 22, line 29; figure 2 page 23, line 12 - page 24, line 24; figures 3B, 3C</p>	1-7, 9-14
X	<p>US 6 161 213 A (LOFSTROM KEITH) 12 December 2000 (2000-12-12) column 1, line 39 - column 3, line 20 column 4, line 9 - column 5, line 8; figure 1 column 5, lines 16-52; figure 2 column 10, lines 51-62; figure 14 column 12, lines 9-67 column 14, line 29 - column 15, line 19; figure 20 column 15, line 65 - column 16, line 7</p>	1, 2, 9-14
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